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ABSTRACT

The program addresses three areas of concern at Western Michigan University: student attrition, minority student participation, and educational relevance. The project was based on previous work suggesting that students can more nearly achieve their optimum performance when programs provide clear-cut objectives, frequent accountability, and experiential learning, accomplished most cost-effectively with student paraprofessional apprentices. A pilot program was begun in 1981 to help students on academic probation, using performance contracts. At the same time, a pilot program to encourage black students to study psychology was started. The Behavior Systems Analysis Project came about to train graduate students, particularly minority students, to work on student retention and minority participation as a career focus. At the Center for Self-Management of Academic Performance, behavioral performance management techniques were used to help high-risk college students achieve academic success. A research supervisory system has also been successful in helping graduate students finish theses and dissertations in a timely fashion. As of 1988, black students in the Behavioral Systems Analysis Program have achieved eight Master of Arts degrees, four admissions to the university's doctoral program in psychology, one Doctorate, and completion of two doctoral dissertation orals. (MSE)

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THE BEHAVIORAL SYSTEMS ANALYSIS PROJECT:

STUDENT ATTRITION, MINORITY PARTICIPATION, AND RELEVANT EDUCATION

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AASCU/ERIC Model Programs Inventory Project

The AASCU/ERIC Model Programs Inventory is a two-year project seeking to establish and test a model system for collecting and disseminating information on model programs at AASCU-member institutions--375 of the public four-year colleges and universities in the United States.

The four objectives of the project are:

- To increase the information on model programs available to all institutions through the ERIC system
- To encourage the use of the ERIC system by AASCU institutions
- To improve AASCU's ability to know about, and share information on, activities at member institutions, and
- To test a model for collaboration with ERIC that other national organizations might adopt.

The AASCU/ERIC Model Programs Inventory Project is funded with a grant from the Fund for the Improvement of Postsecondary Education to the American Association of State Colleges and Universities, in collaboration with the ERIC Clearinghouse on Higher Education at The George Washington University.

ABSTRACT: This project addresses three problem areas of concern to most universities, including Western Michigan University. The problems are student attrition, minority participation, and relevant education. Our previous work suggests that students can more nearly achieve their optimum performance when programs provide clear-cut objectives, frequent accountability, and experiential learning, which can be accomplished in a cost-effective manner with student para-professional apprentices. Since 1966, we have been developing and validating educational technology at the university level. Work on this project involved the following: In 1981, we began a pilot program to help students on academic probation, using a procedure called "performance contracting." In 1981 we also began a pilot program to encourage minority students to participate in psychology. We began the Behavior Systems Analysis Program to provide the training for graduate students in general and minority graduate students in particular to work on student retention and minority participation as a major part of their careers. Much of the efforts of this project centered around the Center for the Self-Management of Academic Performance. In the center, we used behavioral performance management techniques to help high-risk students achieve academic success. We have also developed a successful research supervisory system to help students finish their theses and dissertations in a timely manner.

As of 1988, here are some of the results for the black participants in our Behavioral Systems Analysis Program and our Behavioral Research Supervisory System had accomplished:

8 MA degrees

4 admissions into our PhD program in psychology

1 PhD degree (probably the first black female PhD and the second black-American PhD from Western Michigan University)

2 doctoral dissertation orals successfully completed

PROBLEMS: This project addresses three problem areas of concern to most universities, including Western Michigan University. The problems are student attrition, minority participation, and relevant education.

First, the University drop-out rates is very high for students on academic probation, for special student populations including specially admitted undergraduate and minority graduate students, and for graduate students in general. This is of concern to our university as evidenced by the recent formation of the University Committee on Attrition.

There is a low rate of minority participation in many professions, probably resulting from the related problems of the academic difficulty many minority students have in pre-professional courses, the small number of minority students majoring in professional curricula, and the low Graduate Record Exam scores of many minority students applying to graduate school. This is of concern to our university as evidenced by several university programs, offices and committees on minority participation.

The lack of apparent relevance often makes it difficult to motivate students to learn abstract concepts and skills. Yet many of these concepts and skills will be needed by the future professionals who will be dealing with important human problems, like attrition and minority participation.

PREVIOUS WORK: Our previous work suggests that students can more nearly achieve their optimum performance when programs provide clear-cut objectives, frequent accountability, and experiential learning, which can be accomplished in a cost-effective manner with student para-professional apprentices. Since 1966, we have been developing and validating educational technology at the university level. (By "validating" we mean "experimentally demonstrating the statistical and practical superiority of one technique or approach in comparison with a randomly selected or matched control group.

In an early project we developed an instructional system for large

courses, a system that would be both more effective and less expensive than traditional approaches. The students in these courses would typically achieve one letter grade higher than in traditionally-taught control groups.

In another project, we developed and validated a behaviorally-based system for supervising student MA-thesis research, often a major hurdle preventing many students from graduating. This system decreased attrition from 25% to nearly 0% and reduced time to graduate by 8 months.

Much of this research has been published in various journal articles and summarized in a recent chapter (R.W. Malott, In search of human perfectibility: A behavioral approach to higher education. (Eds. Heward, Heron, Hill, & Porter) (in press) Charles E. Merrill, Columbus.)

WORK ON THIS PROJECT: In 1981, we began a pilot program to help students on academic probation, using a procedure called "performance contracting." The students individually specify what they are to accomplish each day for the coming week. They report their accomplishments on a daily basis, and have weekly, individual meetings where they report their successes and failures, make their commitments for the next week, and plan for any needed changes in strategy. They also attend a special study hall two hours a day. A preliminary study suggested that this program raised the average grade-point from 1.7 to 2.1.

In 1981 we also began a pilot program to encourage minority students to participate in psychology. First, we started a small (4 students per semester) student-led course called, "Behavior Analysis of Black Issues." Thus far, most of the students have continued on into our graduate program or other professional activities. And we have begun three programs for students in the Martin Luther King (MLK) program, a program for helping high-risk freshmen, mainly minority students, into the University. First we established a special section of our introductory psychology course to provide additional

academic support, with new instructional technology as we develop it. Second we developed and empirically validated the first stages of an assertiveness training program for MLK students who have problems with being either too passive or too aggressive. Now we are also starting to develop a special program, using performance contracting to help MLK students in academic difficulty. And in 1983, we started the Behavioral Systems Analysis Program, which actively recruits minority participation; and though it is still small (15 graduate students), it now has over 50% minority enrollment.

We began the Behavior Systems Analysis Program to provide the training for graduate students in general and minority graduate students in particular to work on student retention and minority participation as a major part of their careers. This program consists of a series of courses, involving a lecture, a seminar, and a practicum, with most of the students actively working in an educational practicum in one of the programs described above. Nearly all of the academic concepts in the courses are related to the students' practicum work, thus combining academic and experiential learning. For example , all of the psychology students in this program receive considerable training and practice in performance contracting, as a general method of managing and improving performance. The PhD students use performance contracting in supervising the MA students, who in turn use this method in supervising the BA students, who similarly use performance contracting in working with the student clients. We use this performance contracting to supervise our psychology students' research, practicum work, and course preparation. Thus working within this system, all of our graduate students learn many useful administrative and staff-management skills. This program also provides the staff training and staff management and the program evaluation for the programs described above.

Our goal has been to experimentally evaluate the success of our programs in terms of reduced student attrition and increased quantity and quality of minority participation. At present, the published work in these areas only describes programs; there have been almost no demonstrations that the programs are actually effective in reducing attrition.

Here are some of the specific areas where we have worked in, in an effort to experimentally validate cost-effective procedures:

Performance contracting and time management with students on probation.

Performance contracting to reduce deficits in academic skills.

Performance contracting with minority students in the MLK program.

Training students to work as performance contractors with other students.

Developing an academic support systems for minority psychology students.

Using flash cards to facilitate conceptual mastery of academic concepts.

Helping minority students become fluent in standard American English.

Helping minority students complete MA theses and PhD dissertations.

Applying behavior systems analysis to our program.

While we are doing most of this work in the context of our department of psychology, the general technology we are developing should be equally applicable to most other disciplines.

As of 1988, here are some of the results for the black participants in our Behavioral Systems Analysis Program and our Behavioral Research Supervisory System had accomplished:

8 MA degrees

4 admissions into our PhD program in psychology

1 PhD degree (probably the first black female PhD and the second black-American PhD from Western Michigan University)

2 doctoral dissertation orals successfully completed

The project duration was from 1981 to 1988.

PROJECT DIRECTOR: Dr. Richard W. Malott, received his Ph.D. degree from Columbia University, has written several texts on applied behavior analysis, and specializes in research, development, application, and publication in the areas of instructional technology, self-management and behavior systems analysis in higher education.

THE DEPARTMENT OF PSYCHOLOGY: This project is housed in the Department of Psychology at Western Michigan University. The Department has an international reputation as one of the best departments in the field of Applied Behavior Analysis. And within this field, it is especially noted for its work in the development and application of behavioral technology for higher education and also behavior systems analysis.